DOCUMENT RESUME

ED 119 301 EA 007 926

AUTHOR Ripley, Thomas Charles
TITLE The First Year Impact of Wisconsin School Finance Legislation, 1973, on the Equality of Educational Expenditures in Twenty-Two Metropolitan Milwaukee School Districts.
PUB DATE Nov 75
NOTE 73p.

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage
DESCRIPTORS *Educational Finance; Elementary Secondary Education; *Equal Education; *Equalization Aid; *Expenditure Per Student; *Finance Reform; State Legislation; State Programs; Statistical Analysis
IDENTIFIERS *Wisconsin (Milwaukee)

ABSTRACT

The change in the equality of per-pupil expenditures of 22 metropolitan Milwaukee school districts before and after the implementation of the Wisconsin new power equalization formula for school finance is investigated in this study. The equality of per-pupil expenditures for line items that compose the current operating expenses of a school district is computed using the traditional standard deviation statistic and the Gini coefficient. The values of these statistics are compared for the two years that straddle the implementation of power equalization, 1972-73 and 1973-74. The results demonstrate that the equality of per-pupil expenditures increased for most of the line items and for total current operating expenses after the implementation of district power equalization. An extensive bibliography is included. (Author)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED119301

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

THE FIRST YEAR IMPACT OF WISCONSIN SCHOOL FINANCE LEGISLATION, 1973, ON THE EQUALITY OF EDUCATIONAL EXPENDITURES IN TWENTY-TWO METROPOLITAN MILWAUKEE SCHOOL DISTRICTS

by

Thomas Charles Ripley, Ph.D.

November, 1975

EA 007 926

TABLE OF CONTENTS

INTRODUCTION 1

Chapter

1. EQUAL EDUCATIONAL OPPORTUNITY AND SCHOOL FINANCE 2

2. BACKGROUND FOR WISCONSIN'S NEW SCHOOL FINANCE SYSTEM. 9

3. WISCONSIN SCHOOL FINANCE POLICIES 14

   The School Finance Policy Prior to 1973-74

   The School Finance Policy of 1973-74

4. METHODS EMPLOYED FOR MEASURING VARIATION OF EDUCATIONAL EXPENDITURES AMONG SCHOOL DISTRICTS 28

   The Data Base

   Methods of Analysis

5. CHANGES IN THE EQUALITY OF EDUCATIONAL EXPENDITURES FROM THE 1972-73 TO 1973-74 SCHOOL YEAR 39

   Current Operating Expenditures

   Instruction

   Fixed Charges

   Plant Operation

   Repairs to Plant

   Transportation

   Administration

   Capital Outlay-Replacement

   Transfers to Clearing Accounts

   Health and Attendance

   Summary

6. CONCLUSIONS. 49

7. ADDITIONAL RESEARCH NEEDS 51

TABLE OF CONTENTS, cont'd

LIST OF REFERENCES 53

BIBLIOGRAPHY 55

LIST OF FIGURES

1. Plot of Cumulative Proportions y_i's vs. x_i's . . . 36

2. Graphical Representation of the Gini Index 37

LIST OF TABLES

1. 1972-73 School Year Guaranteed Valuation Per Pupil 17

2. 1972-73 School Year Minimum State Aid Per Pupil 18

3. 1973-74 Guaranteed Valuations Per Pupil 24

4. An Illustration of Full Power Equalization. . . 25

5. Major Line Items Analyzed 31

6. 1972-73 Data Base 33

7. 1973-74 Data Base 34

8. Comparison of Inequality Measures Between School Years 1972-73 and 1973-74 40

ABSTRACT

THE FIRST YEAR IMPACT OF WISCONSIN SCHOOL FINANCE LEGISLATION, 1973, ON THE EQUALITY OF EDUCATIONAL EXPENDITURES IN TWENTY-TWO METROPOLITAN MILWAUKEE SCHOOL DISTRICTS

Thomas C. Ripley, Ph.D.

The change in the equality of per pupil expenditures of twenty-two metropolitan Milwaukee school districts before and after the implementation of the State of Wisconsin's new power equalization formula for school finance is investigated by this study. The equality of per pupil expenditures for line items that comprise the current operating expenses of a school district are computed using the traditional standard deviation statistic and the Gini coefficient. The values of these statistics are compared for the two years that straddle the implementation of power equalization, 1972-73 and 1973-74. The results demonstrate that the equality of per pupil expenditures increased for most of the line items and for total current operating expenses after the implementation of district power equalization.

INTRODUCTION

In the school year of 1973-74, the Wisconsin Department of Public Instruction instituted a new school finance plan. In doing so, Wisconsin joined the ranks of states throughout the nation who have altered their method of school finance to achieve greater equality of educational opportunity.

The major aspect of the new finance plan, termed power equalization, attempts to equalize per pupil educational expenditures among school districts. No weighting scheme was adopted to differentiate the needs of school children. Such needs are addressed minimally by categorical grants to educational agencies.

The full implementation of the new finance plan is to take place gradually over ten years. This report presents an analysis of the per pupil expenditures from the two years that straddle the implementation of the new finance plan. The per pupil expenditures analyzed are the current operating expenditure line items from twenty-two metropolitan Milwaukee school districts.

Both the Gini Index and the traditional standard deviation are employed to compute the variation in per pupil expenditures among school districts. These statistics can be used to analyze other finance plans as well.

CHAPTER 1

EQUAL EDUCATIONAL OPPORTUNITY AND SCHOOL FINANCE

The search for equality has been one of the driving forces of the Western World. Governments have risen and fallen in the name of equality. The United States Constitution embodies this concept, and amendments have been added to extend equality to more Americans.

In the decade of 1960, Americans took a closer look at the equality enjoyed by some of its citizens and found the situation wanting. During this period Congress enacted the 1964 Civil Rights Act, the Economic Opportunity Act, and the Elementary and Secondary Education Act among others. Both legislation and court decisions attempted to right the inequities found in housing, employment, and education.

In every instance, the definition of equality was the crux of deliberation. In cases where the individuals' capabilities were inherently unequal, the term equality was altered to mean equality of opportunity. This emphasis has unique implications for education.

Education has long been cherished, particularly by Americans, as the great equalizer. We believe that education is the principal vehicle of economic fortune and social mobility, and that without it

equal opportunity in employment, housing and other areas is precluded.

Because of this unique position, issues concerning equal educational opportunity have received massive attention. Again the definition of equality in terms of equal educational opportunity became the crux of deliberation. Concensus on a definition has been difficult. Communities have varying expectations from schools; children have varying capabilities, motivation, and background; and schools have varying programs and resources. In addition, educational theory has not uncovered definitive relationships between resources and educational achievement (Coleman, et al. 1966).

It is obvious after considering these dissimilar educational inputs that equality of educational opportunity cannot mean equality of educational achievement. The National Educational Finance Project (NEFP) concluded that equality of educational opportunity in their view means that each child should have a substantially equal opportunity to obtain a public education appropriate to his individual needs. This definition shifts the burden to discriminating the needs of children. Joel Berke (1972) concurs with this approach and has undertaken, as have others, to quantify the needs of children. These efforts have attempted to specify relative weighting factors based on social and economic variables, educational achievement, program costs and mental and physical capacities of children. This work is supported by the recommendations of the NEFP (Johns, et al. 1971).

Whether or not a scaling of educational needs is feasible,

the problem of measuring equal educational opportunity remains. John E. Coons (1970) offers a compelling argument for using educational expenditures per pupil as a measure of opportunity in lieu of any existing alternatives. Coleman (1966), Bowles and Levin (1968), and Benson (1965) are just a few who support the use of such a measure. Coons' arguments were persuasive enough to be adopted by the California Supreme Court and other state courts as part of a legal definition for equal educational opportunity.

The acceptance of educational cost as a measure of quality and hence opportunity, however, should not eclipse the search for educational productivity functions. The cost-quality relationship is definitely not perfect, but it is the most feasible measure of opportunity to date.

If educational needs can be weighted effectively, the equality of educational opportunity can still be related to cost. In this framework, equality of educational opportunity would exist when the educational costs per pupil are similar after being multiplied by the inverse weighting factors of educational needs.

Using educational expenditures as measures of educational opportunity, public school financing arrangements in a number of states have been challenged in the courts in the last five years. These cases have claimed that existing state financing policies do not ensure an individual's right to receive an "equal education", and thus they violate the Equal Protection Clause of the Fourteenth Amendment to the United States Constitution. With regard to the inequitable distribution of educational resources,

John E. Coons of the University of California Law Faculty and his colleagues, William H. Clune and Stephen D. Sugarman (1970), have offered the following possible judicial solution: "The quality of public education may not be a function of wealth other than the wealth of the state as a whole" (Coons, Clune, and Sugarman 1970). The California Supreme Court in its August 30, 1971, ruling on the case of Serrano v. Priest, accepted Coons' arguments and admitted at least tentatively, that the California school finance system allowed the distribution of educational resources to be unduly influenced by a "suspect classification", namely the taxable wealth of individual school districts.

The Serrano v. Priest decision established the basic legal framework for reforming educational finance systems. Similar cases followed in other states, including Van Dusartz v .Hatfield in the U.S. District Court of Minnesota, and Rodriquez v. San Antonio Independent School District before the U.S. District Court for the Western District of Texas.

The State of Wisconsin's school finance policy was similarly challenged by "Stoval" in the Milwaukee County Circuit Court, and by "Bedard" in the U.S. District Court for the Western District of Wisconsin (Ashwill 1973).

These two cases, however, were stayed pending action by the United States Supreme Court on an appeal of the District Court's ruling in the Rodriquez v. San Antonio Independent School District case (Ashwill 1973). This appeal had been brought before the U.S. Supreme Court by the Board of Education of Texas, and on March 21, 1973, the Court handed down its decision. The decision

held that the Texas school financing system, relying like most states on local property taxation, did not violate the Equal Protection Clause of the Fourteenth Amendment. The decision, however, was far from unanimous. By only a single vote, the 5-4 ruling of the Court supported the constitutionality of the existing Texas finance system with respect to the Fourteenth Amendment (United States Supreme Court 1973, No. 71-1332, 24).

While this decision effectively stopped, at least temporarily, the fight for educational finance reform through the federal judicial process, the content and tone of the minority and majority opinions nevertheless encouraged the movement toward reform on other legal fronts. This support is particularly evident in the last paragraph of Justice Powell's majority decision:

> These practical considerations (with regard to equal educational opportunity), of course play no role in the adjudication of the constitutional issues presented here. But they serve to highlight the wisdom of the traditional limitations of this Court's function. The consideration and initiation of fundamental reforms with respect to state taxation and education are matters reserved for the legislative processes of the various States, and we do no violence to the values of federalism and separation of powers by staying our hand. We hardly need add that this Court's action today is not to be viewed as placing its judicial imprimatur on the status quo. The need is apparent for reform in tax systems which may well have relied too long and too heavily on the local property tax. And certainly innovative thinking as to public education, its methods and its funding, is necessary to assure both a higher level of quality and greater uniformity of opportunity. These matters merit the continued attention of the scholars who already have contributed much by their challenges. But the ultimate solutions must come from the lawmakers and from the democratic pressures of those who elect them (Ashwill 1973, p. 3).

In response to court decisions, state legislatures throughout the country began considering alternative school finance plans.

Additional motivation for a change came from citizens who were becoming more irritated by the inequities of property taxation. Such taxation is generally the prime source of school revenues.

School finance models have two major dimensions-the allocation dimension and the revenue dimension. Under the allocation dimension two basic categories of financing exist. These are flat grants and equalizing grants. Both of these grants can be computed using a uniform or varying amount per pupil, per teacher or some other unit. The varying amount is usually based on special needs of certain children. The flat grants do not consider the revenue-raising capacities of different school districts. The equalizing grants, on the other hand, allocate state funds to local school districts in inverse proportions to local taxing ability.

The revenue dimension for classifying school finance models is composed of three categories; complete state support, joint state-local support, and complete local support. Another factor in the revenue dimension is the progressivity of the tax used to raise revenues.

The NEFP has determined various weighting factors for early childhood, elementary and secondary, special, compensatory, and vocational-technical education. Along with these weighting factors, an evaluation scheme was offered to evaluate state finance plans prior to their implementation. This evaluation scheme considers the equalization of educational opportunity since it distinguishes between weighted and unweighted finance programs; giving a lower score to the unweighted schemes.

There are a great variety of finance plans employed by the states. Recently the states of Minnesota, New York, New Jersey, Delaware, Virginia, Connecticut, Massachusetts, Rhode Island, Illinois, North Carolina, California, Texas, Oregon, Nebraska, Kansas, and Utah have reviewed their finance policies in light of the movement to equalize educational opportunity and some states have already adopted new systems. Some of these systems provide for local autonomy over educational expenditures while implementing fiscal motivation to achieve equal per pupil expenditures among districts. One such state is Wisconsin. Its system employs an unweighted power-equalization scheme. This plan falls into the equalizing allocation and joint state-local revenue dimensions of the school finance model classification. However, the new Wisconsin finance system does not include weighting factors for educational need. Special educational needs are addressed by categorical aid. The remainder of this paper describes this system and evaluates its equalization impact on unweighted expenditures per pupil for twenty-two metropolitan Milwaukee school districts.

CHAPTER 2

BACKGROUND FOR WISCONSIN'S NEW SCHOOL FINANCE SYSTEM

On July 24, 1973, the Wisconsin State Legislature enacted Assembly Bill 300 (AB-300) with Senate Substitute Amendment 1, and changed the twenty-five year old financing policy of public education in Wisconsin. This legislation heralded Wisconsin's entry into the march toward educational finance reform that had begun tnroughout the United States. Motivation for such reform stemmed from the acknowledgement of inequities in both educational opportunity and taxation. The Senate Substitute Amendment 1 to AB-300 was an attempt to attenuate these inequities.

The new school finance plan was spurred by the Executive Budget Policy Papers, which were presented by Governor Patrick Lucey as part of the Executive Budget Bill (AB-300) in February, 1973. The motivation for the proposed changes came from many sources including the judicial pressures reported in Chapter 1. Archie A. Buchmiller, deputy state superintendent of the Wisconsin Department of Public Instruction, has effectively documented the background and motivation for the Executive Policy Papers of February 1973 (Buchmiller 1973). He cites the public's heightened sensitivity to educational costs at the turn of the decade and the recommendations of three governor-appointed task forces as instrumental in paving the way for Governor Lucey's

proposed alterations in the finance and governance of elementary and secondary education in the State of Wisconsin. It was the Governor's Executive Budget Policy Papers pertaining to a program for "assuring equal educational opportunities through local educational agencies", to be implemented by the Wisconsin Department of Public Instruction, which formed the basis for Senate Substitute Amendment 1 to AB-300 (Wisconsin Department of Administration 1973). The major goal of this legislation was and is "to provide further equalization of educational opportunity to all Wisconsin students and to guarantee adequate financial resources to provide these opportunities to students in all school districts in the State regardless of the district's property tax base" (Buchmiller 1973, sec. abstract).

The extent to which this legislation will accomplish its goal depends upon action taken by local school districts. Buchmiller stated that the "proposed changes do not substantially reduce the disparities in per-pupil costs (opportunities purchased) of high and low valuation districts". (Buchmiller 1973, p. 31). The existing court cases which have challenged Wisconsin's school finance policy have been rendered academic since the enactment of Senate Substitute Amendment 1 and the Rodriquez decision. Unless this new legislation equalizes the disparities in educational opportunity, which Buchmiller has predicted it will not, new challanges to Wisconsin's school finance scheme will probably be made in the courts.

Most likely the new educational finance plan will be challenged because it does not thoroughly consider the educational

needs of the school children. Although the rhetoric around the new Wisconsin finance plan emphasizes its enhancement of educational opportunity, its ultimate impact will only equalize unweighted educational expenditures. Compensation for varying educational needs of school children is attempted through special categorical grants. These grants only recognize the need for compensatory early childhood education of educationally disadvantaged, transportation for students living more than 2 miles from school, and special programs for the handicapped. Only $650,000 was provided for compensatory early childhood programs in 1973-74 and no other provisions have been made for special and compensatory education, disparities in regional costs, or density and sparsity of student population. Thus, equalization of revenue-raising capabilities and possibly per-pupil expenditures will occur, but equalization of educational opportunity according to the individual needs of children may not. This may motivate modifications of the new plan. Corrections for this type of inequity can be made by including weighting factors for educational need or by broadening the scope and amount of categorical grants.

The disparities in per pupil educational expenditures among school districts in Wisconsin for the 1971-72 school year were reported in the Executive Budget Policy Papers to demonstrate the need for finance reform. The net operating cost per pupil, based on average daily membership (ADM), ranged from a low of $609 to the State high of $1,684. This difference may be attributed in part to the varying regional costs-of-living within the State. However, disparities within a region would tend to

emphasize the inequities in fiscal resources that school districts provide for educational programs.

Such disparities are particularly apparent within the Cooperative Educational Service Agency #19 (CESA #19), where over 190,000 of the State's school age children reside. The net operating cost per pupil (ADM) of twenty-two school districts included in CESA #19 ranged from a minimum of $936 to a maximum of $1,721 for the 1972-73 school year (Ripley, 1975). Many of the wealthiest school districts in the State in terms of assessed property valuation per resident pupil (ADM) belong to CESA #19. The largest school district in the State, Milwaukee Public Schools, is also a member of this CESA. The extent to which the equality of educational expenditures per pupil has changed among school districts throughout the State, may well be indicated by the changes among school districts within CESA #19.

This study presents two straightforward methods for measuring change in the equality of expenditures per pupil among districts and applies these measures to the expenditures of twenty-two school districts within CESA #19 for the 1972-73 and 1973-74 school years. These are the two school years straddling the enactment of Senate Substitute Amendment 1. Although a comparison of these measures does not in the strict experimental sense isolate the actual effect of Senate Substitute Amendment 1 on the equality of educational expenditures per pupil, such a comparison would indicate whether the enacted finance policy has had little or no effect on equalizing educational expenditures

per pupil among CESA #19 school districts at the district level during its first year of implementation. Due to the transitional procedures for implementing the new educational finance scheme, which will be fully explained in Chapter 3, any change in the equality of educational expenditures from the 1972-73 to the 1973-74 school year will likely be slight. However, awareness of the movement toward or away from equality would be indicative of the impact of power equalization on the equality of educational expenditures.

CHAPTER 3

WISCONSIN SCHOOL FINANCE POLICIES

In order to understand the ramifications of Senate Substitute Amendment 1, the educational finance system for the State of Wisconsin should be understood. The school finance system is described in Chapter 121 of Title XIV of the State Statutes. A review of the school finance policy before and after the enactment of Senate Substitute Amendment 1 will set the stage for comparing any change in the equality of educational expenditures per pupil between the 1972-73 and the 1973-74 school years.

The School Finance Policy Prior to 1973-74

To promote educational programs which would meet or exceed state standards, two classes of aid districts were designated, "basic" and "integrated" aid districts. Classification as an integrated aid district ensured a higher level of financial aid, but to attain this classification districts were required to satisfy more stringent educational program standards than those required to receive basic aid. Once a district was classified as basic or integrated, the amount of its per pupil state aid depended upon the following variables:

1. the school district's net per pupil operating cost;
2. its equalized valuation;
3. its mill levy rate;

4. its teacher-pupil ratio;

5. the state average per pupil net operating cost for the current school year for school districts of like organization;

6. the state average per pupil equalized valuation for the current school year for school districts of like organization.

The number of pupils enrolled in a district's schools on the third Friday of September is referred to as its average daily membership (ADM), and has been the figure used to calculate state and school district per pupil statistics. This number includes only those students attaining age 5 on or before December 1 of the school year in which they are enrolled. Kindergarten students are counted as one-half a pupil. If this total enrollment figure exceeds 25 times the number of full-time teachers employed by the district as of the same date, then 25 times the number of teachers is the figure employed to represent the district's total enrollment when computing its state aid.

By a school district's "net operating cost" is meant its cost of operation and maintenance minus its operational receipts for the current school year. Operational receipts include fees obtained from tuition, books, rental of property, etc., as well as federal grants, and county and state aid. Prior to 1973-74, that portion of a district's per pupil net operating cost which exceeded the current state average for districts of like organization by more than 5%, was not considered when computing the amount of that district's state aid. However, if the district were integrated and operating both elementary and high school

grades, the 5% figure was increased 2% for every $1,000 the school district's equalized valuation per pupil was exceeded by the current state average for districts of like organization. This increment was limited to allow a maximum of 120% of the statewide average per-pupil net operating costs (for like districts) to be used in computing state aid. This incremental adjustment for school districts with low per pupil equalized valuation was one way in which the traditional school finance policy attempted to equalize educational resources among districts.

The school district's equalized valuation was the full value of the taxable property within its boundaries, as last certified by the Wisconsin State Department of Revenue. The guaranteed valuation per pupil was defined by the legislature and was a function of the district's classification as basic or integrated, elementary, high school or K-12. The 1972-73 figures for guaranteed valuation per pupil are given in Table 1.

A school district's mill levy rate was either the actual tax levy rate imposed by the district, or its net operating cost divided by the guaranteed valuation, whichever figure was less.

Prior to 1973-74, calculation of a district's per pupil state aid was regulated by its classification as either basic or integrated, elementary, high school or K-12. Each type was guaranteed minimum state aid, termed "flat aids". These minimum values are given in Table 2.

TABLE 1

1972-73 SCHOOL YEAR

GUARANTEED VALUATION PER PUPIL

School Districts Operating	School District Classification	
	Basic	Integrated
Elementary Grades	$24,500	$49,800
Union High Schools	$55,000	$124,500
Elementary and High Schools	$39,000	$52,000

TABLE 2

1972-73 SCHOOL YEAR

MINIMUM STATE AID PER PUPIL

Type of District	Basic	Integrated
Elementary	$30	$70
High School	$40	$88
*Elementary and High School	$30 $40	$70 $88

*The top figure is the per-pupil aid paid for every elementary student and the bottom figure is the per pupil aid paid for every high school student.

For a basic aid district operating elementary schools, three sub-classifications were possible, each requiring different calculations to determine the amount of state aid to be awarded. If the district had less than 9 resident pupils, it received minimum aid. If the district had more than 10 pupils and was not a one-teacher unit school with 12 or more students, the per pupil aid was its guaranteed valuation ($124,500 in 1972-73), less the equalized valuation of the district, multiplied by the mill levy rate or 15 mills (whichever was less). A one-teacher unit school district with 12 or more pupils enrolled was paid a sum equal to $300,000, less the school district's equalized valuation, multiplied by the actual levy rate or 15 mills (whichever was less).

Any state aid granted to a basic union high school district was contingent upon the district's levying a tax equal to 3 mills or more for the year in which the aid was to be awarded. Once the tax was levied, this type of district received state aid equal to the amount by which its guaranteed valuation exceeded its equalized valuation, multiplied by the mill levy rate or 10 mills (whichever was less). A basic district which operated both elementary and high school grades, and which met the three mill levy rate contingency, received a sum equal to 75% of the amount payable had it been an integrated aid district.

Integrated districts were awarded a sum equal to the amount by which their guaranteed valuation exceeded their equalized valuation, multiplied by the mill levy rate. The tax levy rate required for elementary

and high school districts was 3 mills, and for K-12 districts, 5 mills.

In summary, the school finance policy for 1972-73 as outlined here, attempted to equalize funds for educational programs among districts in three ways. The first concerned the method of computing a district's mill levy rate, on which its state aid depended to a great extent. The net operating cost used to compute the mill levy rate for districts with greater than the state average per pupil equalized valuation was limited to 105% of the average for districts of like organization. For those districts with less than the state average, and operating an integrated elementary and high school district, the net operating cost used to compute their mill levy rate could be increased by 2% above the 105% standard, for every $1,000 the school district's equalized valuation was less than the state average, to a 120% maximum. These provisions allowed the poorer school districts to employ a higher mill rate in computing their state aid. However, they had also to impose this levy on the real property within the district.

Second, school districts of a given type having low equalized valuation as compared to their guaranteed valuation were awarded more state aid. This was a result of the procedure for arriving at state aid discussed earlier.

Finally, the designation of districts as basic or integrated was intended to motivate them to enhance their educational programs in order to receive more state aid as integrated districts. This last aspect of the school finance policy may have affected

educational opportunity adversely as well, since some poorer districts would not have been able to afford to enhance their educational programs to qualify for higher state aid as integrated districts, these school districts would remain substandard.

The School Finance Policy of 1973-74

The 1973-74 school year saw the enactment and implementation of Senate Substitute Amendment 1 to Assembly Bill 300. "The primary purpose of the changes must be considered to be a further equalization of educational opportunity to all Wisconsin students and the guarantee of adequate financial resources to provide these opportunities to students in all school districts in the state, regardless of the district property tax base." (Buchmiller 1973, p. 4) The changes adopted to fulfill this purpose are highly complex. Most of the provisions overlap and interact, imposing indirect controls on school district expenditures through fiscal incentives, while avoiding explicit ceilings on districts' per pupil expenditures. As a result, the effect of these changes on the equalization of educational expenditures among school districts cannot be gleaned from the actual changes in the statutes; empirical monitoring of the effects is necessary here. Changes in the statutes are discussed only to set the stage for interpreting the empirical results.

The 1972-73 shared (aidable) costs included only the operating costs as defined in the first part of Chapter 3. In 1973-74 these were augmented by Senate Substitute Amendment 1 to include up to $100 per pupil for the combined expenses of annual capital outlay and the principal and interest payments on a district's

long-term debt. In addition, the district's share of teacher retirement and social security payments, paid entirely by the State in 1972-73, was transferred to them and made eligible for inclusion in the shared cost for state aid computation. (Wisconsin Statutes 1974, Chp. 121.07(6))

The classification of school districts as basic or integrated, for the purpose of regulating their state aid, was repealed and a new set of minimum educational standards that all districts must meet in order to qualify for state aid was imposed. (Wisconsin Statutes 1974, Chp. 121.02)

As in 1972-73, no tax or mill limitation was imposed by the State. However, any increase in the total budgeted expenditures for 1973-74 over those of 1972-73 was limited to $55 per pupil (ADM). The ADM figure used to compute the allowable total increase could be either the 1972-73 or 1973-74 figure. The State Superintendent was granted the power to waive these cost limitations in 1973-74 if school districts were able to provide evidence of any of the following three conditions:

1. that the quality of the district's educational programs would be substantially reduced due to cost limitations;
2. that the cost limitations would not permit the establishment of required programs;
3. that the cost limitations would require the termination of programs previously funded by federal aids. (Wisconsin Statutes 1974, Chp. 121.14, Sec. 550)

The principal change for the purpose of equalizing resources among school districts was a revamping of the entire formula for

state aid. Two guaranteed per pupil valuations were established: primary and secondary. The primary guaranteed valuations applied to educational costs which were below 110% of the prior year's state average shared cost per pupil. A secondary guaranteed valuation was employed for educational costs per pupil above the 110% figure. The 1973-74 per pupil guaranteed valuation figures for the three types of districts, (elementary, high school and K-12), are given in Table 3. (Wisconsin Statutes 1974, Chp. 121.07)

The new method for arriving at the actual tax levy of a school district is known as "district power equalization". The basic principle of this method stipulates that districts which spend at the same level will tax at the same rate. The following is an explanation and example of district power equalization:

> In order to equalize the tax effort of school districts, all districts would calculate their primary required levy rate by dividing their primary shared cost by the primary guaranteed valuation for the district. The primary required levy rate, times the difference between the district's equalized valuation and the primary guaranteed valuation would determine the primary aid for the district. This effect is shown in Table 4 for District A, which has an equalized valuation of $40,000 per pupil.
>
> If the school district's equalized valuation exceeds the primary guaranteed valuation, a negative net primary guaranteed valuation will result. Therefore, when this negative value is multiplied by the primary required levy rate, a negative primary aid is produced. This negative primary aid represents money in excess of that needed to fund the district's primary shared cost; therefore, the district would pay the excess amount to the state, which would redistribute it to districts with low equalized valuations. This "negative state aid" concept is illustrated in Table 4 for District B, which has an equalized valuation of $100,000 per pupil. (Kingston 1973, p. 5)

TABLE 3

1973-74 GUARANTEED VALUATIONS PER PUPIL

Type of District	Guaranteed Valuation	
	Primary	Secondary
Elementary	$68,200	$40,600
High School	$170,500	$101,500
Elementary and High School	$71,200	$42,400

TABLE 4

AN ILLUSTRATION OF FULL

POWER EQUALIZATION

(Kingston 1975, p. 5)

	District A	District B
Primary shared cost per pupil	$ 1,050	$ 1,050
÷Primary guaranteed valuation per pupil	÷ $ 70,000	÷ $ 70,000
Primary required levy rate	.01500	.01500
Primary guaranteed valuation per pupil	$ 70,000	$ 70,000
-Equalized valuation per pupil	- $ 40,000	- $100,000
Primary net guaranteed valuation per pupil	$ 30,000	(-$ 30,000)
Primary net guaranteed valuation per pupil	$ 30,000	(-$ 30,000)
xPrimary required levy rate	x .01500	x .01500
Primary aid per pupil	$ 450	(-$ 450)
Primary cost per pupil	$ 1,050	$ 1,050
-Primary aid per pupil	- $ 450	-(-$ 450)
Primary tax levy per pupil	$ 600	$ 1,500
Primary tax levy per pupil	$ 600	$ 1,500
÷Equalized valuation per pupil	÷ $ 40,000	÷ $100,000
Actual levy rate	.01500	.01500

The determination of the secondary tax rate and the computation of secondary state aid are achieved in a similar fashion by substituting for the primary shared cost the shared cost above 110% of the state average per pupil cost for the previous school year, for school districts of like organization, and substituting the secondary guaranteed valuation per pupil for the primary guaranteed valuation per pupil. The total shared tax rate for the district is obtained by adding the primary and secondary rates together. In like manner, the total state aid may be found by adding the primary and secondary aid together.

The above method is the implementation of full district power equalization. The secondary guaranteed valuation per pupil is a feature to motivate school districts to limit their per pupil expenditures. This formula and the shared cost limitation of $55 per pupil (ADM) above the 1972-73 shared cos would equalize the revenue-raising capabilities of schoo districts in the State of Wisconsin. Whether this would in turn equalize the educational expenditures among school districts remains in doubt. As well as the wealth of a district, the will of the school district's citizenry is a main determinant of its expenditures.

This situation of full power equalization did not exist for the 1973-74 school year. Along with the power equalization formula came legislation for a transitional period whereby the new school finance policy will be implemented gradually, over a period of ten years. School districts such as District B in

Table 4 will not be required to pay negative aid until the 1976-77 school year. Had any district received less general aid under the new financing policy in 1973-74 than it had received in the 1972-73 school year, the State agreed to pay 90% of the difference. This percent will decrease every year by 10% until 1982-83. Thus, legislation has postponed full power equalization for ten years, ensuring only a gradual equalization of revenue-raising abilities among school districts. Likewise, any effects of power equalization on equalizing educational expenditures among school districts will only gradually become apparent. (Wisconsin Statutes 1974, Chp. 121.08(4).

Due to the complexity of the changes in school finance policy created by Senate Substitute Amendment 1, its goal of equalizing Wisconsin school districts' revenue-raising capabilities, and in turn their per pupil educational expenditures, is not easily assessed. Empirical analysis of educational expenditures per pupil among school districts provides the most direct way to measure the trend of equalization. To isolate the regional variation in the cost of educational resources and yet consider a sizeable population of school children where disparities in educational expenditures exist, the school districts in the metropolitan area of Milwaukee have been chosen for analysis. All twenty-two of these school districts are included in CESA #19.

CHAPTER 4

METHODS EMPLOYED FOR MEASURING VARIATION OF EDUCATIONAL EXPENDITURES AMONG SCHOOL DISTRICTS

A school district's expenditures purchase a variety of goods and services. While the overall expenditures per pupil among school districts may approach equality, the dollars spent on specific goods and services may not be as equitable across districts. For this reason the analyses in this study deal with specific major line items in a school district's budget as well as total current operating expenditures. These major line items have been investigated for twenty-two school districts included in CESA #19.

The state-wide average equalized valuation per pupil was $38,609 in 1972-73. Among the twenty-two school districts considered, the maximum equalized valuation was $80,661 and the minimum was $28,910. These school districts are situated in an urban area where the costs of educational resources are assumed to be fairly equal (Wisconsin Department of Public Instruction 1973).

In the present study, two methods for measuring the equality of educational expenditures are applied to the 1972-73 and 1973-74 Annual Report line items for the twenty-two school districts. Then these measures of variation for school years

1972-73 and 1973-74 are compared for each of the specific line items.

These methods for assessing the variation of educational expenditures among school districts can be applied to finance plans other than that of Wisconsin. If school finance plans intentionally vary the allocation of resources per pupil according to some criteria of educational need, these methods can still be applied. By employing the inverse of weightings used to distribute revenues to school districts, the expenditures can be unweighted. If the variation of the unweighted expenditures per pupil is small then the school finance plan is providing equal educational opportunity as defined by the weighting formulation. Whether the variation among school districts is small or not can be determined by the methods employed in this study. Since the Wisconsin finance plan does not employ weightings according to educational needs, unweighting of educational expenditures is not necessary.

Although this study only investigates the impact of the intended equalization of educational expenditures, weightings such as those reported by the NEFP could be employed to determine the equality of educational opportunity that occurs under the Wisconsin plan. Of course, by employing the weightings of the NEFP, one assumes that these weightings reflect equal opportunity.

The Data Base

The State of Wisconsin requires each school district to file an Annual Report of its receipts and expenditures for each fiscal year ending on June 30. This Annual Report also documents the population of children in the district, including the average daily membership (ADM). The ADM is equal to the number of pupils enrolled on the third Friday of September of the fiscal year, plus any pupils who are not then enrolled but who are residing in the school district, and who will become full-time pupils on or before December 1 of the same year.

The data base used in this study was constructed from specific entries on the Annual Reports of twenty-two school districts included in CESA #19 for the 1972-73 and 1973-74 school years. Specifically the data are ratios of ten major line items from the Annual Reports and the ADM for each of the twenty-two districts for each school year. The ten line items were taken from Part II of the Annual Reports. These line items and their respective DPI code numbers are given in Table 5. The sum of these line items is defined in the Uniform Financial Accounting Handbook for Wisconsin School Districts as the current operating costs of a school district. The descriptions of these line items have remained the same over the two school years under consideration, except for fixed charges. In the 1973-74 school year the employer's share of teacher retirement and social security was included under a district's fixed charges, whereas in 1972-73 this

TABLE 5

MAJOR LINE ITEMS

ANALYZED

Name of Line Item on Annual Report	DPI Code
Administration	1000
Instruction	1100
Attendance	1200
Health	1300
Transportation	1400
Operation of Plant	1500
Repairs to Plant	1600
Fixed Charges	1700
Transfers to Clearing Accounts	1800
Capital Outlay (Replacement)	2200

expense had been carried by the State. (Wisconsin Statutes 1974, Chp. 42.20)

The data base for the two school years is presented in Tables 6 and 7. The expenditures per pupil for each of the school districts according to line item is shown. For some line items, such as attendance and health, a few school districts had no recorded expenditures.

From a perusal of these two tables, it is difficult to ascertain whether the inequality among the per pupil expenditures for a given line item has increased or decreased for the 1973-74 school year. Two methods for measuring this variability are presented in the following section. One method measures the variability about each year's mean expenditure per pupil, while the other method employs the Gini Index to indicate the variability of the proportions of the cumulative expenditures per pupil across school districts, for each line item, for the given year.

Methods of Analysis

The variance technique is a traditional approach to measuring the variability of a distribution. This technique measures the total variation about the mean of the distribution. Usually the square root of the variance, or the standard deviation, is reported. In terms of the distribution of per pupil expenditures, a standard deviation of $100 about a mean of $600 for instructional expenditures may be viewed as more unequal than the same standard deviation about a mean of $1,000, although the standard deviations are the same.

TABLE 6

1972-73 DATA BASE

School District	DPI CODES									
	1000	1100	1200	1300	1400	1500	1600	1700	1800	2200
1	23.19	705.07	1.63	1.82	50.45	91.62	16.31	73.52	1.17	21.01
2	89.31	1126.40	.00	.00	101.95	155.69	62.80	160.46	9.19	15.15
3	40.58	682.53	.00	.40	32.12	120.12	15.09	72.57	2.87	15.22
4	31.03	767.31	.00	.41	25.67	92.23	33.11	85.73	9.12	21.08
5	34.90	676.08	.00	.31	96.32	89.62	26.37	86.15	3.56	13.50
6	73.41	964.50	.00	.00	75.85	97.80	32.03	93.80	.00	51.61
7	34.31	793.98	.00	.16	86.75	99.80	30.08	88.48	.10	44.12
8	29.68	655.65	1.47	.39	61.27	83.90	20.06	72.05	.68	11.27
9	32.80	775.58	.00	.12	5.78	90.71	33.83	79.18	10.22	15.34
10	43.38	908.93	.00	.00	8.43	154.01	53.83	139.27	8.36	14.56
11	24.65	861.23	.00	4.32	8.08	123.71	32.90	108.00	1.72	22.86
12	33.86	869.78	.00	.00	1.46	116.73	47.96	96.03	3.84	12.64
13	33.88	756.43	.00	3.87	74.79	78.06	27.38	72.26	5.46	25.95
14	45.32	854.65	.00	.00	91.85	120.49	32.67	72.11	1.11	21.23
15	20.37	713.42	3.96	.74	6.95	104.73	23.69	85.22	1.59	16.14
16	23.39	816.85	.00	4.85	12.15	95.54	37.37	88.53	1.61	18.52
17	24.71	747.39	10.44	.00	17.74	94.32	44.74	86.79	8.19	15.93
18	38.84	767.78	.00	.97	44.98	85.88	36.35	85.62	5.33	13.65
19	23.50	676.38	5.69	2.06	34.47	77.26	29.00	71.10	14.95	23.09
20	29.93	670.97	.00	.00	6.26	105.61	36.04	82.38	2.71	15.78
21	52.68	1103.10	.00	6.66	98.72	130.58	28.47	133.94	13.26	84.69
22	31.65	759.31	.00	9.42	44.96	115.83	19.31	82.64	17.03	36.59

TABLE 7

1973-74 DATA BASE

School District	DPI CODES									
	1000	1100	1200	1300	1400	1500	1600	1700	1800	2200
1	26.60	761.50	1.82	1.84	49.28	106.22	12.85	153.87	1.40	21.62
2	95.91	1242.40	.00	.00	105.67	138.54	61.54	306.38	.00	28.81
3	38.54	689.94	.00	.38	33.84	117.15	15.42	138.90	7.97	26.32
4	31.50	835.03	.00	.46	27.13	100.60	32.47	181.31	9.00	11.81
5	36.42	733.88	.00	.26	110.96	96.86	23.63	172.96	3.94	17.96
6	75.13	985.77	.00	.00	80.02	96.14	31.62	223.23	1.69	14.40
7	35.30	829.68	.00	.27	94.61	103.98	35.33	182.85	.14	40.69
8	39.26	705.73	1.88	.50	68.33	90.06	27.79	122.40	6.87	18.96
9	36.91	812.57	.00	4.84	3.93	100.96	41.44	171.15	21.40	22.90
10	50.55	951.89	.00	.00	9.59	180.00	53.53	246.88	16.40	10.52
11	28.99	893.31	.00	.12	9.63	141.22	34.02	202.04	3.94	28.02
12	34.01	948.25	.00	.00	2.54	126.79	46.41	193.48	4.75	19.83
13	31.35	735.46	.00	.00	76.70	76.93	20.44	157.82	10.52	17.35
14	46.52	905.60	.00	.00	95.13	122.23	37.91	184.34	.65	23.33
15	20.96	783.35	4.40	.44	8.18	106.55	29.68	175.51	3.53	22.53
16	23.51	883.96	.00	4.67	11.34	120.93	40.96	171.16	2.09	24.06
17	30.92	815.04	11.32	.00	20.67	100.70	48.75	183.74	15.39	26.61
18	41.94	816.92	.00	.89	53.83	91.28	31.23	188.48	9.32	6.26
19	31.40	726.99	7.12	2.30	40.80	81.68	34.52	164.11	17.56	26.96
20	33.46	726.11	.00	.00	6.25	111.95	33.31	165.87	5.73	28.94
21	57.03	1138.00	.00	7.08	100.01	143.10	18.27	247.58	18.75	17.43
22	35.42	808.27	1.64	.14	46.91	119.60	16.15	180.17	18.96	27.92

Thus, although the standard deviation provides an exact measure of the variation of the dollars spent on various educational resources among school districts, a measure of the variation proportional to the mean value of the actual expenditures is also desirable.

One such measure commonly employed is the Gini Index. This index is a measure of the extent to which proportions depart from equality. In the present study a Gini Index has been computed for each line item expenditure. To obtain a Gini Index the school districts are ordered from lowest to highest based on per pupil expenditures for a given line item, and these expenditures are totalled cumulatively. Let y_i be the cumulative proportion of the total expenditures per pupil that i school districts spend for a specific line item, y_n being equal to 1, where n is the total number of school districts. For this study n = 22.

Let x_i be the cumulative proportion of the number of districts included in y_i , x_n being equal to 1. If the y_i's and x_i's were plotted on a graph as shown in Figure 1, the curve would slack away from the diagonal if all districts did not spend equal proportions of the total expenditures per pupil for the particular line item. The degree of slackness of the curve is a measure of the degree of this inequality. The slackness may be represented by Area A in Figure 2. An increase in this area indicates an increase in the inequality of the distribution of educational expenditures. The computational formula for calculating the ratio of Area A to Area

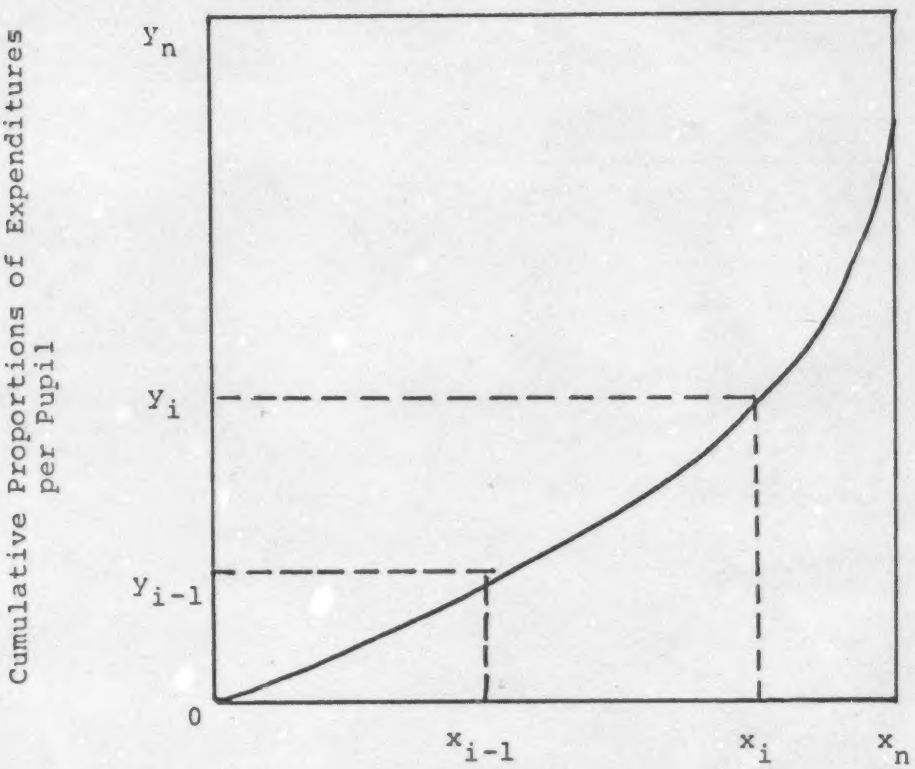
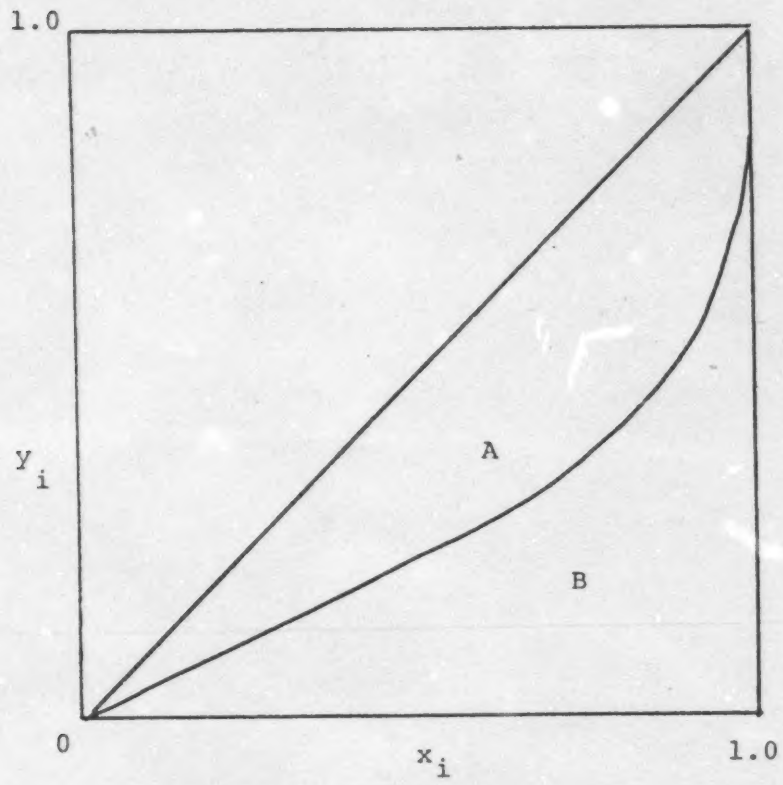


Figure 1. Plot of Cumulative Proportions y_i's vs. x_i's



$$G = \frac{\text{Area A}}{\text{Area (A+B)}}$$

Figure 2. Graphical Representation of the Gini Index

(A+B) is

$$G = \sum_{i=1}^{n} (x_{i-1}\, y_i - x_i\, y_{i-1})$$

where G is known as the Gini Index (Hickrod et al. 1972).

When comparing standard deviations of school district expenditures per pupil from two different school years, the effects of inflation must be considered. The Gini Index, being a measure of equality among proportions, is not affected by across the board changes such as inflation. However, this is not the case with the standard deviation. Inflation increases the standard deviation even though the variation in educational resources may remain unchanged. Thus, the standard deviation of educational expenditures should be reported in constant dollars in order that year-to-year comparisons reflect actual variations in the equality of educational resources among school districts.

The standard deviation and the Gini Index of the reported expenditures per pupil for each line item under consideration have been computed for each of the school years 1972-73 and 1973-74.

CHAPTER 5

CHANGES IN THE EQUALITY OF EDUCATIONAL EXPENDITURES FROM THE 1972-73 TO 1973-74 SCHOOL YEAR

The means, standard deviations and the Gini Indices of per pupil expenditures for the 1972-73 and 1973-74 school years are given in Table 8. These statistics are given for each line item and for total current operating expenditures. The differences between the standard deviations and Gini Indices for the two years are also reported.

The means and standard deviations are in 1972-73 constant dollars. The constant dollar computations were based on the Milwaukee cost of living indices of 127.0 and 139.0 for February 1973 and 1974, respectively (Bureau of Labor Statistics 1973 and 1974). A discussion of the total current operating expenditure statistics and those of the major line items is presented in this chapter.

Current Operating Expenditures

The mean total operating expenditures for the twenty-two school districts increased from $1,146 for the 1972-73 school year to $1,192 for the 1973-74 school year. This increase of $46 is less than the $80 increase in fixed charges, which was expected because of the inclusion of teacher retirement and social security contributions in the fixed charges line item.

TABLE 8

COMPARISON OF INEQUALITY MEASURES

BETWEEN SCHOOL YEARS 1972-73 AND 1973-74

Line Item	DPI Code	Mean		Standard Deviation			Gini Index		
		1972-73	1973-74	1972-73	1973-74	Difference	1972-73	1973-74	Difference
Administration	1000	$ 37.07	$ 36.62	$ 16.58	$ 15.70	- .88	.21106	.19894	-.01212
Instruction	1100	802.42	777.79	130.38	126.59	- 3.79	.08403	.08334	-.00069
Attendance	1200	1.05	1.17	2.56	2.61	+ .05	.85895	.83493	-.02402
Health	1300	1.04	1.00	1.81	1.77	- .04	.76373	.74760	-.01613
Transportation	1400	44.86	43.83	36.06	34.19	- 1.87	.43687	.43476	-.00211
Operation of Plant	1500	105.65	102.72	21.89	21.54	- .35	.11056	.11040	-.00016
Repairs to Plant	1600	32.70	30.20	11.70	11.52	- .18	.18987	.20882	+.01895
Fixed Charges	1700	91.63	170.85	23 .75	36.54	+15.79	.12221	.10620	-.01601
Transfers to Clearing Accounts	1800	5.55	7.48	5.00	6.33	+ 1.33	.48584	.46225	-.02359
Capital Outlay (Replacement)	2200	24.09	20.07	17.03	6.91	-10.12	.30332	.18476	-.11856
Total Current Operating Expenditures		1146.06	1191.75	200.91	208.17	+ 7.26	.09143	.08506	-.00637

These contributions were borne by the State entirely in 1972-73. Since there is no substantial gain in mean expenditures for any of the other line items and in fact most of the line item expenditures per pupil decreased, the overall increase in current operating expenditures per pupil can be attributed to the addition of retirement and social security contributions to the school districts' expenses in 1973-74.

The standard deviation of total current operating expenses also rose by $7.26 to $208.17. This increase can be attributed to the increase in the variation of fixed charges. Since the increase in the standard deviation of fixed charges is $16 and there is no substantial gain in the standard deviations of the other line items, the gain in the overall variation in current operating expenditures can also be attributed to the addition of retirement and social security contributions to school district expenses in 1973-74. If fixed charges were excluded from operating expenses, the variation in operating expenses would decrease from 1972-73 to1973-74 school year, denoting an increase in equality of educational expenditures.

The Gini Indices for current operating expenses decreased from 1972-73, indicating that the school districts expended more equal proportions of their cumulative current operating expenses per pupil in 1973-74 than in the previous year. This movement toward equality of per pupil expenditures can exist along with the increase in the standard deviation because the amount of expenditures increased as well.

Instruction

The line item with the largest mean expenditure per pupil is instruction. This item includes between 65% and 70% of the current

operating expenses. All three of the statistics for this item decreased demonstrating that less money in constant dollars was expended for instruction in 1973-74 than in 1972-73 and that the school districts had more equal expenditures per pupil for instruction than they had the year before. The standard deviation is the largest of all line items, indicating that there is more disparity among school districts in absolute dollars spent for this line item than any other. However, districts spent more equal proportions of funds per pupil for this line item than any other as indicated by the low Gini Indices.

Fixed Charges

The second most costly line item in 1973-74 was fixed charges. The reason for the large increase in fixed charges is the inclusion of retirement and social security contributions in 1973-74. The $80 increase in fixed charges is approximately 10% of the instructional cost per pupil. Since the instruction line item is primarily composed of teacher salaries, and 10% is about the employer's share of social security and retirement contributions combined, this $80 increase is reasonable. The same proportional increase should be expected in the standard deviation for this line item. The $15.79 increase in the standard deviation is approximately 10% of the standard deviation of the instructional cost and thus supports this expectation. Since the increase in the standard deviation of fixed charges for the most part is caused by the variability of instructional salaries, the large increase cannot be attributed

to more inequality in fixed charges as defined during the 1972-73 school year.

The Gini Index decreased for fixed charges, indicating that although the amount of money spent on fixed charges per pupil almost doubled, the school districts expended more equal proportions of the sum of fixed charges per pupil in 1973-74 than in 1972-73. This is reasonable considering that the added retirement and social security contributions to fixed charges were more equally distributed in terms of proportions in 1973-74 than were fixed charges in 1972-73 (i.e., the Gini Index for the distribution of the retirement and social security contributions per pupil is approximately equal to that of instruction in 1973-74 (.08334) and this is less than the Gini Index for fixed charges in 1972-73 (.12221)).

Plant Operation

The cost of plant operation decreased from $105.65 in 1972-73 to $102.72 in 1973-74. Both the standard deviation and the Gini Index also decreased. However, these decreases were slight. This is expected since the costs of plant operations are fairly stable for a given school system from year to year. For a decrease in the variation of plant operation to occur, the physical plants of school districts will have to become more equitable. If this change occurs it will definitely be gradual, and therefore the decrease in the variation of the per pupil cost of plant operations will be gradual as well.

Repairs to Plant

The expenditure for repairs to plant was the only line item whose Gini Index increased from 1972-73. This increase was accompanied by a decrease in both the mean of expenditures for repairs and its standard deviation. This situation may have resulted from an attempt by some districts to economize by putting off repairs in the 1973-74 school year. Continued monitoring of all line items should provide a firmer basis upon which to understand shifts in the equality of an expenditure such as this.

Transportation

The fourth highest line item expenditure is transportation. Equality of expenditures is not to be expected for this line item, because each school district has different transportation needs. Transportation is also an aidable item under categorical grants. The variation of expenditures for transportation indicates that the need and/or cost for transportation among school districts varies.

The mean expenditures for transportation decreased from 1972-73 to 1973-74. The decrease was accompanied by decreases in both the standard deviation and Gini Index. Thus the need and/or cost of transportation among school districts became more equal. However, the standard deviation is between 78% and 80% of the mean expenditure of transportation, which indicates a sizable variation among school districts. This is supported by the high Gini Index, and is not unexpected.

Administration

The per pupil cost for administration was $37.07 per pupil in 1972-73 and $36.62 in 1973-74. This decrease in real dollar expenditures per pupil for administration was accompanied by corresponding decreases in the standard deviation and Gini Index. The ratio of the standard deviation to the mean is referred to as the coefficient of variation and is usually expressed as a percentage. The coefficient of variation for administration was 44.7% in 1972-73 and 42.9% in 1973-74. The coefficient of variation for instructional costs per pupil was 16.2% in both 1972-73 and 1973-74. This indicates the relative variation in administrative costs among school districts is much higher than the variation in instructional costs. This fact is supported by the higher Gini values for administration (.21106 and .19894) than those for instruction (.08403 and .08334). The drop in both the coefficient of variation and Gini Index for administration is greater than that for instruction, indicating that although the discrepancies in administration expenditures are greater than those for instruction, there was greater attenuation of administrative inequity.

Capital Outlay-Replacement

The greatest decrease in both standard deviation and Gini Index occurred with the line item for capital outlay-replacement. The mean per pupil expenditures for this line item was $24.09 in 1972-73 and $20.07 in 1973-74. A possible explanation for this change is that all school districts, even the wealthier

ones, put off all but the necessary expenditures for replacement. This lowered the mean expenditures per pupil and their variation.

Transfers to Clearing Accounts

Both the mean and standard deviation for the transfers to clearing account items increased in 1973-74. The Gini Index, on the other hand, decreased. This indicates that school districts decided to [illegible] some of the increase in costs that occurred in clearing accounts directly rather than curtail clearing account activities. School districts vary widely in the expenditures for these services as can be seen from the large standard deviation and Gini Index. An increase in the standard deviation with an accompanying decrease in the Gini Index indicates that the actual expenditures for clearing account transfers varied more in 1973-74, while proportions of the cumulative clearing account transfers per pupil became more equal among school districts.

Health and Attendance

Both the health and attendance line item expenditures vary widely among school districts. Their coefficients of variation are about 175% and 230% respectively, and their Gini Indices are the largest of any line item. The mean expenditures for attendance increased by 12¢ in 1973-74 to $1.17 per pupil. This was accompanied by an increase of 5¢ in the standard deviation and a drop in the Gini Index. The health line item, on the other hand, was $1.00 per pupil in 1973-74; a 4¢ drop from 1972-73. This drop was accompanied by decreases in both its standard deviation and its Gini Index. Both the health and

attendance line items have such large variations that one suspects that this line item is poorly defined or difficult to compute. If this is not the case, there are sizable inequities in the per pupil expenditures for health and attendance among school districts.

Summary

The results of the analysis of expenditures demonstrate that the twenty-two districts considered had more equal expenditures per pupil the year after Wisconsin's new school finance plan was implemented than in the preceding year. The inclusion of social security and retirement contributions in the school districts budget for 1973-74 was a confounding factor. When the influence of this factor was excluded all line items except three demonstrated more equal expenditures per pupil among school districts. The three exceptions, attendance, repairs to plant, and transfers to clearing accounts, had mixed results. Both attendance and transfers to clearing accounts had increases in their standard deviations and decreases in their Gini Indices. Repairs to plant, on the other hand, had an increase in its Gini Index and a decrease in its standard deviation. The change in the Gini Index for total current operating expenses is about a 7% decrease from its 1972-73 value. If the change in variation of fixed charges is deducted from the change in variation of total current operating expenses (this is appropriate since only 1973-74 fixed charges included retirement and social security variation) the change in the standard deviation of total operating expenses is about a 4.2% decrease from its 1972-73 value. Thus the movement toward equal

educational expenditures has been positive but not sizable. Such results were anticipated because of the transitional implementation of full district power equalization.

CHAPTER 6

CONCLUSIONS

The new Wisconsin school finance plan attempts to equalize educational opportunity in two ways. First, a power equalization formula has been adopted to equalize the revenue-raising capabilities of each school district. This formula when fully implemented provides school districts with the same amount of per pupil revenue if they have the same tax rate regardless of the wealth of their district. This feature is gradually being implemented over a ten year period. The second feature addresses the special needs of certain students by providing categorical grants to school districts and other educational agencies. The categorical grants include funds for compensatory early childhood education, education for the handicapped, and transportation for students who live more than two miles from their school.

The impact of this new finance plan on the per pupil expenditures of school districts was the subject of this study. The line item expenditures for twenty-two metropolitan Milwaukee school districts were investigated on a per pupil basis for the two years straddling the implementation of the new finance plan.

The results disclose that after the first year of implementation mean expenditures for current operations decreased; and equality of per pupil expenditures for current operations among school districts increased. These conclusions were drawn after

removing the employer contributions for teacher retirement and social security from current expenditures. This was a confounding factor since these contributions were not included in school district budgets under the old finance plan.

It has been pointed out that the equality of educational expenditures is not necessarily a desirable outcome of a school finance plan. Due to various educational needs of children, districts should have varying expenditures to meet these needs. Yet under the new finance plan, per pupil expenditures among school districts are intended to become more equal than they were under the old finance plan. The old finance plan permitted inequality among school districts other than that caused by providing for unique educational needs.

Although the results support the contention that the new finance plan does increase the equality of educational expenditures among school districts, the results are derived from one year's worth of data. There are many other factors that influence the budgets of school districts such as economic conditions, student enrollment, management plans and community relations. The expenditures of school districts should be continually monitored to ascertain the effect of the gradual implementation of the new finance plan.

CHAPTER 7

ADDITIONAL RESEARCH NEEDS

This study has attempted to investigate the impact of the new finance plan on educational expenditures. It has not investigated the finance plan's influence on equal educational opportunity. To do this, cost differentials for educational needs must be derived. The NEFP (Johns et al., 1971) has recommended some methods for computing these differentials. Along with these differential weighting factors, the special educational needs of school children must be ascertained. This data should include the type of educational needs and the number of children who have such needs in each district. With this information district weighting factors can be computed. These weighting factors represent the relative district needs. If equal educational opportunity exists, per pupil school district expenditures should be proportional to these weighting factors.

The needs that should be considered include

parent education

day care

nursery school

basic education

middle school education

high school education

special education

compensatory education

vocational education

transportation

capital building program

The methods of measuring the equality of educational expenditures employed in this study can be applied to the measurement of educational opportunity. This is done by employing expenditures per weighted pupil units instead of expenditures per pupil.

Another research need is the investigation of the equality of educational opportunity within school districts. Under the new finance plan equal educational opportunity may be achieved among school districts, but the distribution of opportunity within a school district, especially large districts, may not be equal. Similar techniques can be employed to investigate this possibility, but the unit of reference will be changed from the school district to the school or possibly the classroom.

The 1973-74 school year was the first of ten transitional years before full implementation of power equalization. As power equalization gradually becomes fully implemented, monitoring of the changes in the equality of educational opportunity among school districts should be continued. Both methods discussed and employed in this study can be used to analyze these changes. The effects and ramifications of Senate Substitute Amendment 1 cannot be predicted directly from its legal formulation. The complexity of its structure and the aims, both implicit and explicit, of its many provisions make continual monitoring of the equality of educational opportunity among districts a necessity to ascertain whether the intent of this policy has become fact.

LIST OF REFERENCES

Ashwill, M.C. 1973. Rodriquez decision affects Wisconsin school financing cases. Wisconsin Department of Public Instruction Newsletter. 5:2:177-198.

Benson, C.S. 1965. The cheerful prospect: a statement on the future of public education. Boston: Houghton-Mifflin.

Berke, J.S. 1972. The financial aspects of equality of educational opportunity and inequities in school finance. ERIC Document Reproduction Service, ED 42247.

Bowles, S. and Levin, B.M. 1968. The determinants of scholastic achievement - an appraisal of some recent evidence. Journal of Human Resources. 3:1.

Buchmiller, A.A. 1973. Wisconsin's elementary-secondary school finance reform legislation: Assembly Substitute Amendment 1 to 1973 Assembly Bill 300. ERIC Document Reproduction Service, ED 84701.

Bureau of Labor Statistics. 1973 and 1974. Cost of living index.

Coleman, J.S. et al. 1966. Equality of educational opportunity. Washington, D.C.: U.S. Government Printing Office.

Coons, J.; Clune, W.H.; and Sugarman, S. 1970. Private wealth and public education. Cambridge, Mass.: Bel Knap Press.

Hickrod, G. Alan. 1971. Local demand for education: a critique of school finance and economic research circa 1959-1969. Review of Educational Research. 41:1:35-49.

Johns, R.L. et al. 1971. Future directions for school financing. A response to demands for fiscal equity in American education. A monograph. ERIC Document Reproduction Service, ED 59526.

Kingston, Alan. 1973. Assembly Substitute Amendment 1 to Assembly Bill 300 as it affects school finance and general school aids. A letter to Wisconsin school superintendents. Madison, Wisconsin: Wisconsin Department of Public Instruction.

Ripley, T.C. 1975. Cost and programs study final report: an E.S.E.A. Title V, Part C project. Milwaukee, Wisconsin: Cooperative Educational Service Agency #19.

Wisconsin Department of Administration. 1973. Executive policy papers.

Wisconsin Department of Public Instruction. 1972. Laws of Wisconsin relating to public schools. Madison, Wisconsin: Wisconsin Department of Public Instruction.

_____. 1972. Wisconsin school districts 1972-73 enrollments and valuations. Madison, Wisconsin.

Wisconsin Statutes. 1974.

BIBLIOGRAPHY

BOOKS

Alexander, S. Kern and Johns, Roe L., Alternative Programs for Financing Education. National Education Finance Project, Vol. 5. Gainesville: National Educational Finance Project, 1971.

Barr, W. Monfort et al., Financing Public Elementary and Secondary School Facilities. National Educational Finance Project Special Studies, 1970.

Barr, W. Monfort, and Wilkerson, William R. Innovative Financing of Public School Facilities. Danville, Ill.: Interstate Printers and Publishers, Inc., 1973.

Benson, C.S. The Cheerful Prospect: A Statement on the Future of Public Education. Boston: Houghton-Mifflin, 1965.

Berke, Joel S.; Campbell, Allan K.; and Goettel, Robert J. Financing Equal Educational Opportunity: Alternatives for State Finance. Berkeley: McCutchan Publishing Corp., 1972.

Boudon, Raymond. Education: Opportunity and Social Inequality. New York: John M. Wiley & Sons, 1973.

Callahan, John. Equalizing Educational Opportunity in Wisconsin. Madison: Wisconsin Department of Public Instruction, 1924.

Coleman J.S. et al. Equality of Educational Opportunity. Wash. D.C.: U.S. Government Printing Office, 1966.

Coons, John; Clune, William H. III; and Sugarman, Stephan. Private Wealth and Public Education. Cambridge, Mass.: Bel Knap Press, 1970.

Haggart, Sue A. (ed.) Program Budgeting for School District Planning. Englewood Cliffs, N.J.: Educational Technology Publications, 1972.

Jordan, K. Forbis. School Business Administration. New York: Ronald Press Co., 1969.

Reitman, Jerry I. et al. Standard Education Almanac. Orange, N.J.: Academic Media, 1972.

Rossmiller, Richard A. et al. Fiscal Capacity and Education Finance: Variations Among States, School Districts and Municipalities. National Educational Finance Project No. 10. Madison: The University of Wisconsin Press, 1970.

Stearns, J.W. (ed.) The Columbian History of Education in Wisconsin. State Committee on Educational Exhibit for Wisconsin, 1893.

United States Office of Education. Financial Accounting for Local and State School Systems. Handbook II.

Wilensky, Gail R. State Aid and Educational Opportunity. Beverly Hills, Cal.: Sage Publications, 1970.

Wisconsin Department of Public Instruction. Laws of Wisconsin Relating to Public Schools. Madison, Wisconsin, July, 1972.

JOURNALS AND MONOGRAPHS

Aiken, John S. and Clune, William H. III. "Economic and Legal Justification of Fiscal Neutrality." Education and Urban Society 5; 2; (1973): 177-198.

Ashwill, Max C. "Rodriguez Decision Affects Wisconsin School Financing Cases." Wisconsin Department of Public Instruction Newsletter, Vol. 26, No. 9 (May 1973).

Benson, Charles J. "Developing a Workable Response in Education Finance to Serrano v. Priest." Education and Urban Society 5; 2; (1973): 211-222.

_____ "Observations on Finance of Education." Thrust for Educational Leadership 3; 2 (1973): 13-17.

_____ "The Economic Context." National Society for the Study of Education Yearbook 75, Part 2; (1973): 198-217.

Berke, Joel S. and Callahan, John J. "Serrano v. Priest: Milestone or Millstone for School Finance." Journal of Public Law 21; 1; (1972): 23-71.

Berke, Joel S. et al. "The Texas School Finance Case: A Wrong in Search of a Remedy." Journal of Law and Education 1; 4; (1972): 659-686.

Billings, C. David and Legler, John B. "Empirical Evidence of Economies of Scale in Education as a Justification of Differentials in Expenditures per Student." Journal of Law and Education 2; 4; (1973): 667-671.

Bowles, Samuel and Levin, B.M. "The Determinants of Scholastic Achievement - An Appraisal of Some Recent Evidence." Journal of Human Resources 3:1 (1968).

Clune, William H. "Law and Economics in Hobson v. Hansen: An Introductory Note." Journal of Human Resources 7; 3; (1972): 275-282.

Cramer, Paula and Gilmar, Sybil. "PPBS: What Should the School Dollar Buy?" Educational Leadership 29; 8; (1972): 664-667.

Crane, James S. "Financing Public Schools in Appalachia." Appalachia 6; 5; (1973): 41-55.

Donham, John D. "Cost Analysis by Grade: A Better Way to Financial Analysis." Independent School Bulletin 33; 1; (1974): 15-17.

Garber, Lee O. and Reutter, E. Edmund Jr. "School Finance." Yearbook of School Law (1970): 153-203.

Goettel, Robert J. and Andrew, Ralph. "School-by-School Expenditures and Educational Need in Three Urban Districts." Planning and Changing 3; 3 (1972): 11-23.

Grubb, W. Norton. "The Distribution of Costs and Benefits in an Urban Public School System." National Tax Journal 24; 1; (1971): 1-12.

Gustman, Alan L. and Pidot, George B. Jr. "Interactions Between Educational Spending and Student Enrollment." Journal of Human Resources 8; 1 (1973): 3-23.

Guthrie, James W. "School Finance Reform: Acceptable Remedies for Serrano." School Review 82; 2; (1974): 207-232.

_____ "The Educational Implications of Serrano." Education and Urban Society 5; 2 (1973): 197-210.

Hartley, Harry J. "PPBS: Status and Implications." Educational Leadership 29;8; (1972): 658-661.

Hickrod, G. Alan. "Local Demand for Education: A Critique of School Finance and Economic Research Circa 1959-1969." Review of Educational Research 41; 1; (1971): 35-49.

Kent, Russell. "The Financing of Equal Educational Opportunity." Thrust for Educational Leadership 3; 2; (1973): 9-11.

Kirp, David L. "San Antonio Independent School District v. Rodriguez. A Commentary." Journal of Law and Education 2; 3; (1973): 461-481.

Laws, Raymond L. "Fiscal Homogeneity or Heterogeneity Among Suburban School Districts in Metropolitan Areas." Educational Administration Quarterly 6 (3); (1970) 56-65.

Laws, Raymond L. and Tcheng, Mike T. "Penalty and Equity in Funding Separate Elementary and Secondary School Districts." Planning and Changing -- A Journal for School Administrators 1; 4; (1971): 175-185.

Marshall, Thurgood. "Rodriguez: The Dissent." Compact (1973): 10-16.

Michelson, Stephan. "For the Plaintiffs -- Equal Resource Allocation." Journal of Human Resources 7; 3; (1972): 283-306.

Nyquist, Ewald B. "Education's Financial Dilemma." Compact 6; 4; (1972): 4-10.

O'Neil, Dave M. et al. "For the Defendants -- Educational Equality and Expenditure Equalization Orders." Journal of Human Resources 7; 3; (1972): 60-64.

Owen, John D. "The Distribution of Educational Resources in Large American Cities." Journal of Human Resources 7; 1; (1972): 26-38.

Pappadakis, Nick and Totten, W. Fred. "A Tool for Local School Accounting." Federal Washington Manual (1972).

Pollack, Rubin. "What This Years' Cost of Education Index Shows." School Management 18; 1; (1974): 14-37.

Powel, Lewis F. Jr. "Rodriguez: The Decision." Compact (1973): 3-9.

Ripley, Thomas C. Costs and Program Study Final Report: An E.S.E.A. Title V, Part C Project. Cooperative Educational Service Agency #19, June 1975, Milwaukee, Wisconsin, 20-21.

Rosenberg, Neal E. "School Sizes as a Factor of School Expenditures." Journal of Secondary Education 45;3 (1970): 135-142.

Rossmiller, Richard A. et al. "School Financing." Today's Education 62; 4; (1973): 30-36.

Sabulao, Cesar M. and Hickrod, G. Alan. "Optimum Size of School Districts Relative to Selected Costs." Journal of Educational Administration 9; 2; (1971): 118-192.

St. Louis, Larry and McNamara, James F. "Economics of Scale for a State System of Public School Districts." Socio-Economic Planning Sciences 7;3; (1973): 295-303.

Schrader, Robert G. "Program Budgeting Goes Statewide." Compact 8; 2; (1974): 7-9.

Scribner, Jay E. and Snow, R.J. "Comments on Federalism and the Plight of City Schools; An Introduction to Papers by Guthrie and Kirst." Educating Urban Society 2;2 (1970): 193-198.

Scribner, Jay D. et al. "School Finance Reform: The Aftermath of Serrano v. Priest." 5; 2; (1973): 133-148.

Selden, David. "Money Controls Our Schools." Compact 6; 6; (1972): 23-24.

Sheehan, James D. "State Planning for Upgrading Local School Districts Budgeting and Accounting." Educational Planning 2;3; (1973): 65-71.

Stern, David. "Effects of Alternative State Aid Formulas on the Distribution of Public School Expenditures in Massachusetts." Review of Economics and Statistics 55; 1; (1973): 91-97.

Throop, Harold L. Jr. "Budget Guidelines for Responsible Management." School Management 16; 6; (1972): 16-17.

Van Geel, Tyll. "PPBES and District Resource Allocation." Administrator's Notebook 22; 1; (1973): 1-4.

Winkler, Donald R. "Do Dollars for Higher Quality Teachers Make a Difference?" Compact 6; 6; (1972): 13-16.

Wise, Arthur E. "Legal Challenges to Public School Finance." School Review 82; 1; (1973): 1-25.

Wolff, George J. and Handzo, Joseph J. "New Federal Cost Accounting Regulations." School Management 17; 5; (1973): 24, 33, 58.

Zima, George C. "A New View of the Relation Between Cost and Quality in Education." Research Bulletin 10; 2; (1970): 1-3.

MICROFORM REPRODUCTIONS

Anderson, Gayle H. A Critique: The Minnesota School Finance Study. ERIC Document Reproduction Service, ED 84694, 1973.

Anthony, Robert N. and Herzlinger, Regina E. An Accounting System for Public Schools. A Memorandum. ERIC Document Reproduction Service, ED 73559, 1971.

Barr, Richard H. Expenditures and Revenues for Public Elementary and Secondary Education. ERIC Document Reproduction Service, ED 74614, 1973.

Barr, Richard et al. Review of Existing State School Finance Programs. Volume II - Documentation of Disparities in the Financing of Public Elementary and Secondary School Systems - By State A. Commission Staff Report. ERIC Document Reproduction Service, ED 58487, 1971.

Barrac, Lough. Texas Public School Finance: Majority of Exceptions. Interim Report (2nd). ERIC Document Reproduction Service, ED 84623, 1972.

Barro, Stephen M. The Impact of Grants-In-Aid on State and Local Education Expenditures. ERIC Document Reproduction Service, ED 44614, 1970.

Barro, Stephen M. Alternatives in California School Finance. ERIC Document Reproduction Service, ED 57490, 1971.

Barro, Stephen M. An Econometric Study of Public School Expenditure Variations Across States. ERIC Document Reproduction Service, ED 75936, 1972.

Bendixsen, Marian F. In Search of Equality: School Finance Revisited. A Report. ERIC Document Reproduction Service, ED 70191, 1972.

Berke, Joel S. The Impact of Present Patterns of Funding Education for Urban Schools. ERIC Document Reproduction Service, ED 42247, 1970.

Berke, Joel S. et al. The Financial Aspects of Equality of Educational Opportunity and Inequities in School Finance. ERIC Document Reproduction Service, ED 59341, 1972.

Bricke, L. A New Design: Financing for Effective Education in Illinois. Final Report. ERIC Document Reproduction Service, ED 78555, 1972.

Bricke, L. Superintendents Advisory Committee on School Finance. Occasional Papers and Final Report. ERIC Document Reproduction Service, ED 78550-53, 1973.

Buchmiller, Archie A. Wisconsin's Elementary-Secondary School Finance Reform Legislation: Assembly Substitute Amendment 1 to 1973 Assembly Bill 300. ERIC Document Reproduction Service, ED 84701, 1973.

Burke, James M. The California Property Tax Case: Implications for Financing Schools In Oregon. ERIC Document Reproduction Service, ED 66808, 1972.

Callahan, John J. Jr. and Wilken, William H. Revision, Relief and Redistribution of the Connecticut State and Local Tax Structure. A Research Monograph. ERIC Document Reproduction Service, ED 78587, 1972.

Callahan, John J. Jr. and Wilken, William H. Education Finance Reform in Massachusetts: Meeting the Constitutional Demands of Serrano v. Priest. ERIC Document Reproduction Service, ED 78584, 1973.

Chapman, Dave. Issues in School Finance. ERIC Document Reproduction Service, ED 72521, 1972.

Cober, John G. Cost of Teaching Different Subjects. ERIC Document Reproduction Service, ED 83703, 1973.

Cohen, Michael A. et al. The Political Limits to School Finance Reform. ERIC Document Reproduction Service, ED 78521, 1973.

Cohn, Elchanan and Millman, Stephen D. An Economic Analysis of State Aid to Education. Final Report. ERIC Document Reproduction Service, ED 78595, 1973.

Daicoff, Darwin W. The Economic Implications of Recent Court Decisions Regarding Educational Finance. ERIC Document Reproduction Service, ED 67769, 1972.

Davis, Robert G. Analysis of State School Finance Reform Legislation Proposal in Oregon, and Supplement. ERIC Document Reproduction Service, ED 84702, 1973.

Davis, T.A. Full State Funding of Elementary and Secondary Education In New York State. ERIC Document Reproduction Service, ED 64759, 1972.

Denzau, Arthur. Public Education Finances 1949-1985. ERIC Document Reproduction Service, ED 57573, 1971.

Dochterman, Clifford L. et al. Understanding Education's Financial Dilemma. The Impact of Serrano-Type Court Decisions on American Education. School Finance Series - 1. ERIC Document Reproduction Service, ED 62703, 1972.

Flores, Patrick F. et al. School Finance Reform in Texas. A Report to the U.S. Commission on Civil Rights Prepared by the Texas State Committee (An Official Advisory Committee to the Commission). ERIC Document Reproduction Service, ED 67750, 1972.

Foster, Betty J. and Botts, John M. Current Expenditures by Local Education Agencies for Free Public Elementary and Secondary Education. ERIC Document Reproduction Service, ED 73561, 1971.

Foster, Betty J. Statistics of Public Elementary and Secondary Day Schools, Fall 1972: Pupils, Instructional and Non-Instructional Staff, Expenditures and Salaries. ERIC Document Reproduction Service, ED 83688, 1973.

Fox, Lynn H. and Hurd, Gordon E. Finances of Large-City School Systems. A Comparative Analysis. ERIC Document Reproduction Service, ED 58613, 1971.

Furse, Bernarr S. An Analysis of Senate Bill 72: School Finance Program in Utah. ERIC Document Reproduction Service, ED 84703, 1973.

Guthrie, James W. et al. Schools and Inequality. ERIC Document Reproduction Service, ED 79443, 1971.

Hallak, J. The Analysis of Educational Costs and Expenditure. Fundamentals of Educational Planning - 10. ERIC Document Reproduction Service, ED 52511, 1970.

Hansen, Kenneth E. Inequality in School Financing: The Role of the Law. Clearinghouse Publication No. 39. ERIC Document Reproduction Service, ED 72523, 1972.

Harris, William T. et al. The Virginia Educational System; Capacity for Response to Serrano v. Priest. ERIC Document Reproduction Service, ED 82310, 1973.

Harrow, Thomas L. and Dziuban, Charles D. An Investigation in Educational Resource Allocation in School Districts. ERIC Document Reproduction Service, ED 61602, 1972.

Hazlett, James A. Should Each State Assume Full Responsibility for Financing Public Education. ERIC Document Reproduction Service, ED 50454, 1971.

Hickrod, G. Alan and Chaudhari, Ramesh. A Longitudinal Study of Fiscal Equalization in Illinois. ERIC Document Reproduction Service, ED 74621, 1973.

Hickrod, G. Alan et al. Definition, Measurement and Application of the Concept of Equalization in School Finance. An Integration and Critique of School Finance Research Conducted on the Subject of Equal Education Opportunity. An Occasional Paper. ERIC Document Reproduction Service, ED 60544, 1972.

Hills, Thomas. Commission Report: New York State Commission on the Quality, Cost, and Financing of Elementary And Secondary Education. Summary of Volume I. ERIC Document Reproduction Service, ED 64776, 1972.

Hoffenberg, Marvin and Alkin Marvin C. Application of Leontief Input-Output Analysis to School District Budgeting. ERIC Document Reproduction Service, ED 43940, 1970.

Hudson, C. Cale. Understanding Public School Finance in Nebraska, 1971-72. ERIC Document Reproduction Service, ED 60572, 1971.

Johns, Roe L. Future Directions for School Financing. A Response to Demands for Fiscal Equity in American Education. A Monograph. ERIC Document Reproduction Service, ED 59526, 1971.

Johns, Thomas L. Public School Finance Programs; 1971-72 (States, District of Columbia, and Outlying Areas). ERIC Document Reproduction Service, ED 73536, 1972.

Jones, Thomas H. Review of Existing State School Finance Programs. Volume I. A Commission Staff Report. ERIC Document Reproduction Service, ED 58480, 1971.

Jordan, K. Forbis. An Analysis of the Process and Methodology of the Delaware School Finance Study. ERIC Document Reproduction Service, ED 84699, 1973.

Kaplan, Robe. Equal Educational Opportunity; Hearings Before the Select Committee on Equal Educational Opportunity of the United States Senate; Ninety-Second Congress, First Session on Equal Educational Opportunity. Part 19A -- Equal Educational Opportunity in Michigan: U.S. Senate Select Committee on Educational Opportunity Staff Charts on Michigan's Educational Assessment Program. ERIC Document Reproduction Service, ED 59311, 1972.

Levin, Betsy et al. Paying for Public Schools. Issues of School Finance in California. ERIC Document Reproduction Service, ED 74597, 1972.

Levin, Betsy et al. Public School Finance: Present Disparities and Fiscal Alternatives: Volume II. Analysis of Individual States. ERIC Document Reproduction Service, ED 58479, 1972.

Levin Betsy et al. The Financing of Schools in Illinois. ERIC Document Reproduction Service, ED 85874, 1973.

Levin, Betsy et al. The High Cost of Education in Cities: An Analysis of the Purchasing Power of the Educational Dollar. ERIC Document Reproduction Service, ED 78518, 1973.

Levin, Betsy et al. Schools and Taxes in North Carolina. ERIC Document Reproduction Service, ED 78517, 1973.

Levin, Betsy and Muller, Thomas. The Financing of Schools in Minnesota. ERIC Document Reproduction Service, ED 78520, 1973.

Levin, Henry M. et al. The Costs to the Nation of Inadequate Education. A Report Prepared for the Select Committee on Equal Educational Opportunity of the United States Senate. ERIC Document Reproduction Service, ED 64437, 1972.

Lovern, Mary. Public School Finance Problems in Texas. An Interim Report. ERIC Document Reproduction Service, ED 83736, 1972.

McDougall, Ronald N. Program Costing - A Logical Step Toward Improved Management. ERIC Document Reproduction Service, ED 83940, 1973.

McGary, Carroll R. Equalizing Educational Opportunity Through Funding. ERIC Document Reproduction Service, ED 65940, 1972.

McGheney, M.A. Analysis of a State School Finance Reform Legislative Proposal in Kansas. ERIC Document Reproduction Service, ED 84700, 1973.

McGheney, M.A. San Antonio v. Rodriquez. Analysis and Projections. ERIC Document Reproduction Service, ED 18549, 1973,

McGheney, M.A. The Assault Upon State School Finance Systems. ERIC Document Reproduction Service, ED 63666, 1972.

Maltby, Gregory, P. (ed.) et al. Restructuring School Finance. Legal and Financial Implications of the Serrano Case for the State of Oregon. ERIC Document Reproduction Service, ED 74606, 1972.

Mattheis, Duane J. The Emergency in School Finance. ERIC Document Reproduction Service, ED 67777, 1972.

Myers, Will S. et al. State-Local Revenue Systems and Educational Finance. ERIC Document Reproduction Service, ED 58477, 1971.

Nyquist, Ewald B. Full State Funding and Local School Board Policy-Making. ERIC Document Reproduction Service, ED 62707, 1972.

Piele, Philip K. R & D Perspectives. The President's Commission on School Finance. ERIC Document Reproduction Service, ED 63654, 1972.

Pipho, Chris. Survey of School Finance Study Commissions and Committees. Research Brief No. 1. ERIC Document Reproduction Service, ED 64777, 1972.

Reischauer, Robert D. and Hartman, Robert W. Reforming School Finance. Studies in Social Economics, II. ERIC Document Reproduction Service, ED 70856, 1973.

Riorda, N. Rob. Supreme Court of the United States Syllabus: San Antonio Independent School District Et Al. v. Rodriquez Et Al. Appeal from the U.S. District Court for the Western District of Texas. No. 71-1332, Argued October 12, 1972 - Decided March 21, 1973. ERIC Document Reproduction Service, ED 73568, 1971.

Roberts, Charles T. and Lichtenberger, Allan R. Financial Accounting: Classifications and Standard Terminology for Local and State School Systems. State Educational Records and Reports Series: Handbook II Revised. ERIC Document Reproduction Service, ED 81103, 1973.

Rossmiller, Richard A. and Moran, Thomas H. Programmatic Cost Differentials in Delaware School Districts - A Study. ERIC Document Reproduction Service, ED 83712, 1973.

Rubin, Max J. California School District Financial Analyses 1972-73. C.A.R.E. Document #16. ERIC Document Reproduction Service, ED 85885, 1973.

Rumbaugh, Stanley A. et al. A Study of the Relationships Among School District Size, Expenditure Level and Composite Achievement. ERIC Document Reproduction Service, ED 63645, 1972.

Sabulao, Cesar M. and Hickrod, G. Alan. Optimum Size of School Districts Relative to Selected Costs. ERIC Document Reproduction Service, ED 47377, 1970.

Scott, Geraldine J. Preliminary Statistics of State School Systems 1969-70. ERIC Document Reproduction Service, ED 74628, 1973.

Shalala, Donna E. The Political Realities of Revising State Education Finance Systems. ERIC Document Reproduction Service, ED 63671, 1972.

Silard, John et al. Equity for Cities in School Finance Reform: A Case for an Equal Education Offering Standard in Public Education. ERIC Document Reproduction Service, ED 86775, 1973.

Sklar, Sigmund L. In Search of a Rational Basis for Measuring Disparities (A Review of Per-Pupil Expenditure Make-Up.) ERIC Document Reproduction Service, ED 58505, 1972.

Smith, J. Stephen. Core Curriculum and Program Costing. Final Report. ERIC Document Reproduction Service, ED 86115, 1973.

Swanson, Austin D. Full State Funding v. Power Equalizing. Alternative Approaches for Financing Elementary and Secondary Education in New York State. Staff Study No. 2. ERIC Document Reproduction Service, ED 82360, 1972.

Wilken, William H. and Callahan, John J. Jr. Nine Models of School Finance Reform: A Simulation Analysis in Connecticut. ERIC Document Reproduction Service, ED 75928, 1973.

Ziemer, Gordon et al. Cost Finding Principles and Procedures. Preliminary Field Review Edition. Technical Report No. 26. ERIC Document Reproduction Service, ED 74883, 1971.